

SCIENTIFIC SERIALS

Morphologisches Jahrbuch, vol. ii. Part 2.—On the structure of the toes of Batrachia, &c., by Dr. F. Leydig (32 pages).—On the valvular apparatus in the conus arteriosus of Selachians and Ganoids, by Dr. Stöhr.—Contribution to the anatomy and histology of Asteroids and Ophiuroids, by Wichard Lange (46 pages, 3 plates).

REICHERT and Du Bois Reymond's *Archiv*, September, 1876.—Studies on animal heat, Part 3 (conclusion), by Dr. A. Adamkiewicz.—Contribution to the theory of the growth of bone, by Dr. I. Lotze.—On the negative variation of the muscular current during contraction, Part 3 (conclusion), by Du Bois Reymond.

Archiv für mikroskopische Anatomie, vol. xiii. Part 1, July, 1876.—Rhizopod studies, No. vi., by F. E. Schulze.—On the anatomy and histology of the Coccidæ, by E. L. Mark.—Studies of the development of Gastropods, by N. Bobretzky (75 pages), with 6 plates illustrating the development of *Nassa mutabilis*, *Natica*, and *Fusus*.—On the hypothesis of discharge and the motor end plates, by W. Krause.

Bulletin de l'Académie Impériale des Sciences de St. Pétersbourg, t. xxii., No. 2.—This part contains the following papers of interest:—Diagnoses plantarum novarum Japoniae et Mandshuriae, decas xx. (continued from last vol.), by C. J. Maximovicz.—On the plants of the bear period found in the deposits of the Ogour river, a tributary to the Jenissei, in Siberia, by J. Schmalhausen.—Preliminary communication by the same, on a microscopical examination of the food-remains of Siberian fossil rhinoceros, viz., *Rhinoceros antiquitatis seu tichorinus*.—On the supposed satellite of *Procyon* (*a Canis min.*), by O. Struve. The other contents are only of archæological and philological interest.

SOCIETIES AND ACADEMIES

LONDON

Linnean Society, November 16.—Prof. Allman, president, in the chair.—Messrs. J. C. Onian, R. H. Peck, and D. G. Rutherford were duly elected fellows.—Mr. H. N. Moseley, of H.M.S. *Challenger*, read a paper on the flora of Marion Island. This island possesses considerable interest from its isolation and being within the Antarctic drift. It is about 1,000 miles from the African Continent, 450 from the Crozets, 1,200 from the desolate Kerguelen Island, above 2,000 from Tristan D'Acunha, and 4,500 from the Falklands, to which, nevertheless, its flora appears related. It is of volcanic origin and snowclad. The rocks at half-tide are covered with *Davourea utilis*, above high tide *Tillaea moschata* is found in abundance, and beyond the beach a swampy peaty soil covers the rocks, where there is a thick growth of herbage; this is principally composed of species of *Acena*, *Azorella*, and *Festuca*, the first of these three being the most abundant plant on the island, though the latter grass is by no means scarce. The cabbage-like plant *Pringlea antiscorbutica* is less profuse than at Kerguelen's Land. Some of the ranunculoid group are met with at water pools near the sea; four kinds of ferns were obtained, *Lomaria Alpina* being the most numerous. Lichens are scarce, but mosses in plenty form yellow patches, which stand out conspicuously midst the green vegetation, which rises to an altitude of probably 2,000 feet. From the occurrence of *Pringlea* on Marion Island, the Crozets, and Kerguelen Island, and the existence of fossil tree-trunks on the two latter, the author surmises an ancient land connection between them.—A memoir on the birds collected by Prof. Steere (U.S. Michigan) in the Philippine Archipelago was read by Mr. R. Bowdler Sharpe, and copious coloured drawings of the new and rare forms exhibited and commented on. Although it is but lately that Lord Tweeddale's (President Zool. Soc.) remarkable monograph on the Philippine birds was published, with immense additions to the avifauna, yet Steere's collection has yielded over sixty hitherto unknown species. Many novelties may therefore still be expected as further exploration proceeds. The recorded species of birds from the Philippines at the present now amount to 285.—A letter containing observations on the American Grasshopper (*Caiotenus femur-rubrum*), with remarks on the same by Mr. Frederick Smith, was noticed.—Mr. Moseley exhibited some insular floral collections in illustration of his paper and of the various parts touched at by the *Challenger*. He also called attention to a series of volumes and pamphlets, &c., on natural history obtained by him in Japan.

Zoological Society, November 21.—Prof. Flowers, F.R.S., vice-president, in the chair. The Secretary read a report on the additions that had been made to the Society's Menagerie during the month of October.—Mr. Selater exhibited and made remarks on the skin of a young rhinoceros (*R. sondaicus*), belonging to Mr. W. Jamrach, which had been captured in the Sunderbunds, near Calcutta, in May last.—The Secretary exhibited on behalf of Mr. Andrew Anderson, a coloured drawing of a specimen of *Emys hamiltoni*, lately captured at Futtehghurh (Ganges). The occurrence of this *Emys*, chiefly confined to Lower Bengal, so far west as Futtehghurh, was considered as of much interest.—A letter was read from Count T. Salvadori, containing remarks on some of the birds mentioned by Signor D'Albertis, as seen by him during his first excursion up the Fly River.—A communication was read from Mr. G. B. Sowerby, jun., containing descriptions of six new species of shells, from the collections of the Marchioness Paulucci and Dr. Prevost.—Mr. Edward R. Alston read a paper containing the descriptions of two new species of *Hesperomys* from Central America, which he proposed to call respectively *Hesperomys teguina* and *H. couesi*.—A paper was read by Prof. Garrod, F.R.S., on the Chinese Deer, named *Lophotragus michianus*, by Mr. Swinhoe, in which he showed that the species so called was identical with *Elaphodus cephalophus* (A. Milne Edwards), obtained by Père David in Moupin. The close affinity between the genera *Elaphodus* and *Cervulus* was demonstrated, the latter differing little more than in the possession of frontal cutaneous glands not found in the former.—Mr. Arthur G. Butler read a paper containing descriptions of new species of Lepidoptera, from New Guinea, with a notice of a new genus.—A communication was read from Dr. J. S. Bowerbank, being the eighth of his series of "Contributions to a General History of the Spongiadæ."

Meteorological Society, November 15.—Mr. H. S. Eaton, M.A., president, in the chair.—Messrs. R. A. Allison, John Evans, F.R.S., Dr. W. Marcey, F.R.S., Rev. T. G. P. Pope, and Mr. G. Washington were elected fellows.—The following papers were read:—Results of meteorological observations made at Rossinière, Canton Vaud, Switzerland, during 1874 and 1875, by Mr. William Marriott. Rossinière is situated in a valley running north-east and south-west, about three quarters of a mile broad, the mountains on the north being 3,000 to 4,000 feet above the valley of the Sarine, and those on the south, 1,000 to 3,000 feet. The valley is shut in at either end by a gorge, that on the east being about one mile, and that on the west about two miles distant. The observations were all taken by Col. M. F. Ward, F.R.A.S. The mean temperature, as deduced from the mean of the maximum and minimum readings, was 43°·4 for 1874, and 43°·5 for 1875. The monthly means ranged from 20°·0 for December, 1874, and 20°·5 for December, 1875, to 64°·9 for July, 1874. The highest temperature in 1874 was 89° on July 3, and 1875, 85° on August 18; the lowest in 1874 was -4° on December 24, and in 1875 -7° on January 1. Owing to the situation of Rossinière, the prevailing winds are those from north-east and south-west. In the winter months the air is for the most part calm, and it is owing to this absence of wind that the intense cold is not so severely felt as it would otherwise be. The total rainfall for 1874 was 54·282 inches, and for 1875, 55·870 inches. The months of greatest rainfall are July and November, and those of the least February and March. Thunderstorms occur frequently from May to August, as many as five being sometimes recorded in one day. The number of thunderstorms observed in 1874 was forty-five, and in 1875, forty-three. No thunder was heard or lightning seen in the months of December to March.—The climate of Fiji, by Mr. R. C. Holmes. This paper contains the results of meteorological observations taken at Delanasa, Bay of Islands, north coast of the province of Bua, Fiji, during the five years ending 1875. The average annual mean temperature is 79°·1. The highest temperature recorded was 97°·7 on January 12, 1871, and the lowest 58°·5 on August 20, 1875, the extreme range in the five years being 39°·2. The average annual rainfall is 124·15 inches, and the number of rainy days 170. The greatest fall in 24 hours was 14·95 inches, which occurred on March 19, 1871. After describing somewhat fully the chief characteristics of the months and seasons, hurricanes and storms, earthquakes, waterspouts, &c., the author concludes with the question, "Is the climate of Fiji a healthy one?" In reply he says that, considered as a tropical country, an affirmative answer may be given without hesitation. Those fatal diseases so common in tropical countries, fevers of various kinds, cholera, and liver complaints, are almost unknown. This is owing partly to the geographical

position of the group, lying in the region of the trade winds, so that it enjoys almost perpetual breezes, calms being rare, and the islands so small that the sea-breeze from all directions can penetrate into every corner.—Notes on some remarkable errors in thermometers recorded at Sydney Observatory, 1876, by Mr. H. C. Russell, F.R.A.S. For upwards of five years the same hygrometer has been in use at the Observatory; the dry bulb is small, only 0.3 inches in diameter, and the instrument up to February 26 had always given very satisfactory readings, tested by those of a standard which hangs only 3 inches from it; the difference in the readings was usually 0.2 to 0.3. On that day the maximum shade temperature rose to 96.4 about noon; at 3 P.M. the dry-bulb and standard read 83.7, and at 9 P.M., 68.9 and 69.0. Next morning they read 69.6 and 69.8; as this was Sunday, they were not read again until 9 A.M. on the 28th, when the dry bulb read 87.3, and the standard 64.9, showing a difference of 22.4. It was at once thought that the glass had cracked and let in the air, but as no crack could be seen after careful examination, it was determined to continue the readings. The author had always found before that if a thermometer cracks in the bulb, the mercury rises till the tube is full, and he expected it would be so in this case, though he could see no crack. The result, however, was that the difference steadily decreased, at first at the rate of 1° each day, and in thirty-five days the difference had fallen to less than 0.5, or almost to its normal condition. Between April 7 and 17, it rose again, then fell; on May 3, and again on the 7th, sudden rises took place, since then the difference has been diminishing, except a slight rise on May 21 and 22. When very closely examined with the microscope, a very small piece of coloured glass is to be seen in the bulb, as if lead had been reduced by the blowpipe, and on one side of the bulb a mark is visible, as if there was a minute quantity of water between the mercury and the glass at one spot.

PARIS

Academy of Sciences, November 20.—Vice-Admiral Paris in the chair.—The following papers were read:—Meridian observations of small planets made at the Greenwich and Paris observatories during the third trimestre of 1876, communicated by M. Leverrier.—Tables of the planet Uranus, based on comparison of theory with observations, by M. Leverrier.—On the physical and chemical properties of ruthenium, by MM. H. Sainte-Claire Deville and Debray.—New researches on the chemical phenomena produced by electricity of tension, by M. Berthelot. He studies the relations of the reactions to sign and tension of the electricity.—On the composition of some phosphites, by M. Wurtz. Phosphite of calcium, neutral and acid phosphites of barium.—On the quantity of rainfall at Rome during fifty years, 1825 to 1874, by P. Secchi. The yearly maximum is in the end of October and beginning of November. No relation was perceptible between the quantity of rain and the sun-spots. The great rain-periods at Rome coincided with floods of the lake of Fucino, 100 kilos. distant.—Organisation of a new meteorological observatory on Monte-Cavo; meteorological observations near Rome, by P. Secchi.—On the modifications of elæomargaric acid produced by light and heat, by M. Cloëz.—On the phenomenon of the black drop, by M. André.—On a series of experiments with regard to the flow of water made at the reservoir of Furens, by M. Græff.—On exchange of gases in the tympanic cavity; physiological considerations and therapeutical applications, by M. Loewenberg. In cases of obstruction of the Eustachian tube, causing deafness, the volume of gas in the tympanic cavity is diminished, and the membrane presses inwards. The author says this diminution must be due, not to absorption, but to exchange by diffusion, and he suggests as remedies:—(1) the insufflation of air that has been inspired and expired four or five times; (2) the insufflation of hydrogen.—New observations on the cure of typhoid fever by parasiticide phenicated medication (phenic acid and phenate of ammonia, in draughts, and subcutaneous injection in large doses), by M. Declat.—The theory of systems of land-elevation, *à propos* of the system of Mont Seny, by M. Vezian.—Researches on the structure and the vitality of eggs of phylloxera, by M. Balbiani.—Remarks on M. Bouilland's observations regarding the effects produced by sulpho-carbonates, by M. Mouillefert.—Experiments on treatment of phylloxerised vines by phenic acid and alkaline phenates, by M. Rommier.—On the practical conditions of employment of insecticides to oppose phylloxera, by M. Delachanal.—Results obtained from the use of sulpho-carbonates in the vines of the Puy-de-Dôme, by M. Aubergier.—On

the employment of pyrites in treatment of vines affected with oidium, by M. François.—On the gaseous movement in the radiometer, by M. Salet.—Experiments on the immersed radiometer, by M. de Fonvielle.—Absorbent powers of bodies for heat, by M. Aymonnet. The atomic absorbent power appears to be constant (1) for all simple bodies dissolved in the same medium; (2) for all simple bodies forming part of compounds of like chemical composition.—On a process of determination of alkaline sulphates, by M. Jean.—On the causes of error involved in the application of the law of mixtures of vapours, in the determination of their density, by MM. Troost and Hautefeuille.—On the saccharine matter contained in the petals of flowers, by M. Boussingault. This is considerable, amounting in some eighteen cases examined to an average of 4.88 per cent. in the undried flower.—On a process of testing wines for fuchsine, by M. Fordos.—On the investigation of rosolic acid in presence of fuchsine, by MM. Guyot and Bidaux.—New researches on the action of non-arsenical fuchsine introduced into the stomach and the blood, by MM. Feltz and Ritter.—On the action of iron in anæmia, by M. Hayem. It causes the globules to become charged with a larger amount of colouring matter, and this, not merely in the curable anæmic, but even in cachexia; where, the organism being exhausted, the production of red globules is almost entirely stopped.—Experiments on the pneumogastric and on nerves supposed to be inhibitory, by M. Onimus.—Researches on the urea of the blood, by M. Bernard.—On the power possessed by certain Acarians, with or without a mouth, of living without food during whole phases of their existence, and even their whole life, by M. Megnin.—On crystals of oxydatised iron presenting a singular deformation, by M. Friedel.—On the figures which are formed in superposed liquids, when a movement of rotation is imparted to them, by M. Bouquet de la Grye. These show some analogies to sun-spots. M. Faye added a few comments.—On some peculiarities of lightning, by M. Renon. Beaded lightning; purple or violet flashes; lightning in a near cloud without thunder; sound of thunder heard at 40 kilom. distance.—Observations of falling stars during the nights of November 12, 13, and 14, 1876, at Clermont Ferrand, by M. Gruy.—On the present state of volcanic phenomena of Carvasséra, by M. de Cigalla.

VIENNA

Imperial Academy of Sciences, October 12, 26.—The following among other papers were read:—The nerves of hair-covered skin, by M. Arnstein.—The germination of plant spores in its relation to light, by M. Leitgeb.—On spontaneous variations of blood-pressure, by M. Mayer.—On the action of chloroform and ether on breathing and circulation, by M. Knoll.—On some remarkable phenomena in Geissler tubes, by MM. Reilinger and Urbanitzky.

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